

Commonwealth of Massachusetts

Human Resources Division

Physician's Guide

Initial-Hire Medical Standards

(July 2005)

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Appendix

Medical Examination Form

Frequently Asked Questions and Answers on Public Safety
Medical Examinations

I. INTRODUCTION

The purpose of this Guide is to provide medical protocol for examining physicians for their assessment of candidates who are applying for initial-hire, municipal police officer and firefighter positions. The Guide includes the Human Resources Division's (HRD's) updated Medical and Physical Fitness Standards, Police and Firefighter Physical Ability Test (PAT) Events, Essential Functions for Municipal Police Officers and Firefighters, and the Development and Administration Process for Police and Firefighter Physical Ability Tests (PATs). Please be advised that the enclosed medical standards are updated and effective as of June 3, 2005, with significant revisions pertaining to Hearing and Vision.

The purpose of the standard Medical Examination Form (revised in July 2005) is to obtain a medical history from the examinee, to record your medical examination and test results, and to report on the results of your medical determination. All medical examination records are the property of the appointing authority. They must be kept accessible for the duration of the examining physician's contract in the event of an audit, appeal or disability proceeding. If the contract terminates or expires, the physician will be instructed to transfer these records to his or her successor. The physician, however, may retain copies of the examination reports.

Before you conduct a medical examination, please familiarize yourself with the essential functions, including the physical demands, of the job. You should also review the Medical Standards for the appropriate job. Finally, please conduct a thorough medical examination as prescribed by these Medical Standards. When you have completed the medical examination, you will be required to certify in the Medical Verification Section (Page 6, Section I) of the Medical Examination Form whether or not the examinee meets the medical requirements of the job, and whether he or she will be able to perform the essential functions of the position. The appointing authority will notify the examinee of the results of the exam and will forward pages one and six of the Medical Examination Form to HRD.

II. GENERAL INFORMATION

A physician approved by the community for which the examinee seeks to work must sign off medical examinations and any subsequent re-examinations.

Municipal physicians are responsible for reviewing the results of the examination and advising the department whether or not an examinee has passed the medical examination under the applicable medical standards.

Information and records concerning an examinee's medical examination must be kept confidential and in conformance with medical records requirements.

Any community that concludes that a physician has conducted an incomplete or less than thorough medical examination is required to notify HRD, and return the results of the exam to the physician with an explanation of the reasons why. The physician is then required to review the community's concerns and respond to those concerns in a thorough and complete manner.

An examinee who fails the medical examination is permitted one re-examination under the Initial Medical Standards Program. The subsequent re-examination should focus on the standards not met by the candidate in the initial examination and should entail a specialist examination. However, should the candidate's failure in the initial examination involve procedural issues (e.g. a laboratory or diagnostic test not completed or not completed properly by the candidate), the subsequent re-examination must address the procedural issues in question, which may or may not necessitate a specialist exam. In either case, the outcome of the subsequent re-examination will take precedence over the outcome of the initial examination in determining whether a candidate meets the initial-hire medical standards.

Started in June 2003, HRD no longer adjudicates medical examination appeals. An examinee may appeal his or her failure of a subsequent re-examination directly to the Civil Service Commission located at One Ashburton Place, Room 503, Boston, MA 02108. The website for the Commission is <http://www.mass.gov/csc/>.

The Medical Examination Form is subject to audit by HRD. HRD has the right to obtain copies of documentation of medical examinations from examining physicians for review by HRD's medical consultants. This audit is to assess the quality and uniformity of examinations, to ensure compliance with consistent application of HRD's medical protocol for conducting medical examinations, and to provide information needed to improve and update the examination process and forms. All deficiencies in examinations performed will be discussed with examining physicians. By signing page one of the Medical Examination Form, the candidate grants HRD access to his or her medical examination records. Pages one and six of the Medical Examination Form must be sent to HRD by the appointing authority.

Unless there is a prior agreement between the candidate and the community in terms of who will be responsible for the expenses incurred in the examination process, the candidate is responsible for paying the expenses. Before administering the medical examination process, the examining physician should therefore advise the examinee of the costs associated with the process, especially if a specialist exam and/or additional testing are involved.

Any questions examining physicians have for the Massachusetts Human Resources Division should be directed to the Medical and Physical Fitness Standards Team at 617-727-3777.

III. THE MEDICAL EXAMINATION PROCESS

The referring department will have completed Section A of the Medical Examination Form and will have given the Medical Examination Form to the examinee to complete Section C (Consent and Certification) and Section E (Medical History) before reporting to your office for the examination. If these sections are not completed, please have the examinee complete them. Carefully review the medical history with the examinee and record in detail in Section H (Additional Notes) any additional information you obtain. **Please note that the examinee is now asked whether he/she is currently receiving any disability benefits.** There should be sufficient data recorded regarding any positive medical history to justify the fitness determination you make.

Each examinee must receive a comprehensive medical examination, which includes all systems necessary to ensure that he or she meets the applicable Medical Standards. The basic medical examination should be inclusive of, but not limited to all items listed in Section F (Medical Examination). You should also examine other areas, as indicated based upon the medical history, even if they are not listed in Section F. Please elaborate on any positive medical findings in sufficient detail to justify the fitness determination you make. Examination of the breasts, rectum or prostate should be included only when they are clinically indicated in your judgment, based upon the history provided by the examinee. Otherwise, these examinations should be offered to examinees for their own wellness and performed if the examinee consents. Providers are strongly encouraged to provide education on glaucoma. A nurse practitioner registered to practice in an expanded role by the Massachusetts Board of Registration in Nursing, or a physician's assistant registered to practice under a physician's supervision by the Massachusetts Board of Registration in Medicine may perform the medical examination.

HRD requires the following tests from each examinee: an audiogram, a visual acuity and peripheral vision test, a basic pulmonary function test, and a Purified Protein Derivative (PPD) test for tuberculosis. There is space provided on the Medical Examination Form for any additional laboratory and diagnostic tests that may be requested by the appointing authority. A five-panel drug test may be required by the appointing authority for new hires. HIV testing is not indicated for routine pre-placement screening. It is important that any additional tests that are required by the municipality be specified prior to the start of the medical examination.

When you have completed your examination, you may determine that additional information such as hospital records, specialized tests (e.g., an exercise tolerance test) or an examination by a medical specialist are needed to make a determination regarding whether or not an examinee meets the Medical Standards. Please advise and provide the candidate with specific guidance regarding the type of information needed and acceptable sources where it can be obtained. In the case of specialist opinions, the examinee should be advised to consult a specialist who is Board Certified in the appropriate specialty by a specialty board recognized by the American Board of Medical Specialists.

When the medical history has been reviewed, the medical examination has been performed, all laboratory and diagnostic test results have been reviewed and any necessary additional information obtained and assessed, the municipal physician should complete Section I (Medical Verification Section). This part may **not** be completed by a nurse practitioner or a physician's assistant. The determination of passage or failure of the exam should be based upon the ability of the examinee to meet the requirements of the applicable Medical Standards at the time of the medical examination.

Medical conditions listed in the Medical Standards are classified as "Category A" or "Category B" conditions. Category A conditions are considered absolutely disqualifying. For Category B conditions you are required to consider whether the particular examinee's condition would prevent him or her from performing the essential functions of the position. Both the Medical Standards and the Essential Functions are found in this Physician's Guide (pgs. 5-30 and 31-42, respectively). If you find an examinee not qualified, you will need to indicate whether the condition is Category A or Category B and cite the applicable section of the Medical Standards in the Medical Verification Section. The examining physician must carefully document the rationale for finding the examinee not qualified.

If you find that an examinee failed to provide a complete and accurate medical history, you will need to explain such under Section I of the Medical Examination Form, "Physician's Notice of Examinee's Failure to Provide Complete & Accurate Medical History." By itself, failure to provide a complete and accurate medical history will not necessarily disqualify the examinee from meeting the medical standards, but may subject the examinee to administrative disqualification of employment or other adverse action by the appointing authority.

If an examinee is found qualified despite a potentially disqualifying condition, the logic behind this determination should be documented in Section H (Additional Notes) of the Medical Examination Form.

When an examinee is found to be in need of further evaluation or treatment, the municipal physician may refer the person to local clinics, hospitals or specialists. Except in the case of a bona fide emergency when a delay in treatment might prove harmful, the municipal physician should offer to provide a list of several sources and leave the selection of a specific provider up to the examinee.

IV. Medical Standards for Municipal Police Officers

(1) Medical Evaluation: Each municipal police department shall establish and implement a pre-placement medical evaluation process for candidates. During the medical evaluation, the physician shall evaluate each individual to ascertain the presence of any medical conditions listed in these standards, or any medical conditions not listed which would prevent the individual from performing the essential job functions without posing significant risk. It is our intent to encourage the use of professional judgment regarding medical conditions that are not specifically listed. A candidate shall not be certified as meeting the medical requirements of these standards if the physician determines that the candidate has any Category A medical condition specified in these standards. Furthermore, a candidate shall not be certified as meeting the medical requirements of these standards if the physician determines that the candidate has a Category B medical condition that is of sufficient severity to prevent the candidate from performing the essential functions of a police officer without posing a significant risk to the safety and health of him/herself or others.

(2) The medical evaluation shall minimally include the following:

- (a) comprehensive medical history, that is, a baseline (pre-placement) or interval (periodic) occupational history, including significant past exposures and training and experience with personal protection equipment
- (b) height and weight
- (c) vital signs: pulse, respiration, blood pressure, and, if indicated, temperature
- (d) dermatological system
- (e) ears, eyes, nose, mouth, throat
- (f) cardiovascular system
- (g) respiratory system
- (h) gastrointestinal system
- (i) genitourinary system
- (j) endocrine and metabolic systems
- (k) musculoskeletal system
- (l) neurological system
- (m) basic mental status evaluation. Based on the severity, diagnosis, and impairment of any identified behavior or condition, the initial examiner is encouraged to consider referral of the applicant to a doctoral level mental health professional for further evaluation. In general, the current or recent use of psychotropic medications shall be reviewed by a Board certified psychiatrist.
- (n) audiometry. Audiograms should be performed in an ANSI approved "soundproof" booth (ANSI S3.1-1977) with equipment calibrated to ANSI standards (ANSI S3.6-1973). If a booth is unavailable, the test room sound pressure levels should not exceed those specified in the Federal OSHA noise regulations (29 CFR 1910.25).
- (o) visual acuity and peripheral vision testing.
- (p) pulmonary function testing. A baseline test should be administered by an experienced individual. Only a spirogram that is technically acceptable and demonstrates the best efforts by an individual should be used to calculate the Forced Vital Capacity (FVC) and Forced Expiratory Volume in one second (FEV1.0).

- (q) a review of hepatitis B immunization status.
- (r) a Purified Protein Derivative (PPD) test for tuberculosis, based on individual departmental infection control plans, and
- (s) other diagnostic testing where indicated.

(3) The medical evaluation process may also include:

- (a) a review of tetanus immunization status.

(4) All medical information collected as part of a medical evaluation shall be considered confidential medical information, and shall be released by the physician only with the specific written consent of the candidate. The physician shall report the results of the medical evaluation to the candidate, including any medical condition(s) disclosed during the medical evaluation and the recommendation whether the candidate is medically certified to perform as a police officer. The physician shall inform the police department and HRD only whether or not the candidate is medically certified to perform as a police officer. The specific written consent of the candidate shall be required to release confidential medical information to the police department and HRD, following guidelines set forth under the Americans With Disabilities Act (ADA) and other relevant policies.

(5) Category A and Category B Medical Conditions

- (a) A Category A Medical Condition is a medical condition that would preclude an individual from performing the essential job functions of a municipal police officer, or present a significant risk to the safety and health of that individual or others.
- (b) A Category B Medical Condition is a medical condition that, based on its severity or degree, may or may not preclude an individual from performing the essential job functions of a municipal police officer, or present a significant risk to the safety and health of that individual or others.

(6) The following biological systems shall be components of the Initial Medical Standards for police officers:

(a) Musculoskeletal

1. Head and Skull

a. Category A medical conditions shall include:

i. none.

b. Category B medical conditions shall include:

i. deformities of the skull, loss or congenital absence of the bony substance of the skull which limit the ability to wear a mask and/or protective breathing apparatus,

ii. thoracic outlet syndrome sufficient to compromise required activity,

iii. congenital cysts, chronic draining fistulas, or similar lesions,

- iv. any other head condition that results in an individual not being able to perform the job of police officer.

2. Neck and Cervical Spine

- a. Category A medical conditions shall include:
 - i. none
- b. Category B medical conditions shall include:
 - i. cervical arthrodesis/fusion,/instability
 - ii. cervical canal stenosis,
 - iii. cervical radiculopathy or myelopathy,
 - iv. herniated disc,
 - v. degenerative disc disease,
 - vi. abnormal chronic contraction of neck muscles,
 - vii. any other neck condition that results in an individual not being able to perform the job of police officer

3. Thoracic/lumbar/sacral Spine

- a. Category A medical conditions shall include:
 - i. symptomatic spondylolisthesis, whether or not surgically corrected.
- b. Category B medical conditions shall include:
 - i. lumbar laminectomy or discectomy, with or without fusion.
 - ii. degenerative disease/spondylolysis/pars defect
 - iii. structural abnormality, fracture, or dislocation,
 - iv. degenerative disk disease,
 - v. herniated disk/sciatica/radiculopathy,
 - vi. spinal stenosis,
 - vii. spinal surgery not covered in Category A,
 - viii. any other spinal condition that results in an individual not being able to perform the job of police officer

4. Extremities

a. Category A medical conditions shall include:

- i. hemipelvectomy,
- ii. hip disarticulation,
- iii. above-the-knee amputation,
- iv. upper extremity amputation at or above the wrist, of either thumb, or of digits if absence of those digits interferes with performance of essential job functions, (which includes weapon firing with either hand)

b. Category B medical conditions shall include:

- i. severe limitation of motion of a joint, fibrosis, or arthrodesis,
- ii. below-the-knee amputations and other amputations not covered in Category A,

iii. total joint arthroplasty:

- i. shoulder
- ii. elbow
- iii. wrist
- iv. thumb, first, or second digit
- v. hip
- vi. knee
- vii. ankle

- iv. deformity or dislocation of a joint or limb,
- v. joint reconstruction, ligamentous instability, or joint replacement not covered in (iii),
- vi. chronic osteoarthritis or traumatic arthritis,
- vii. inflammatory arthritis,
- viii. osteomyelitis,
- ix. compressive neuropathies including carpal tunnel syndrome or ulnar nerve palsy,
- x. required use of stabilizing orthopedic braces,
- xi. any other extremity condition that results in an individual not being able to perform the job of police officer

(b) Eyes And Vision

The medical evaluation shall minimally include visual acuity (Snellen) and peripheral vision testing using a Titmus or Optec Vision Screener or other similar standardized testing device. Contact lenses are not permitted to meet the uncorrected standard. X-chrom contact lens use is not permitted to meet the color standard. When the candidate is being tested, he/she must present without wearing contact lenses **for at least 24 hours**, so that uncorrected vision can be accurately tested.

1. Category A medical conditions shall include:

- a. uncorrected vision worse than 20/100 in either eye
- b. corrected vision worse than 20/20 in the better eye UNLESS – the vision in the good eye alone is at least 20/25 AND the vision with both eyes together is 20/20 or better.
- c. peripheral vision of less than 70 degrees temporally and 45 degrees nasally in either eye AND/OR any history of conditions limiting field of vision will necessitate additional assessment by an eye care professional who will use a Goldmann-type perimeter to determine if the binocular visual field is 140 degrees (at least 70 degrees temporally in each eye) with a III4e isopter.
- d. Testing by Ishihara or Richmond pseudo-isochromatic plates is required and if the candidate fails, testing by Farnsworth D-15 is required. Two or more major errors on the Farnsworth is a Category A condition.

2. Category B medical conditions shall include:

- a. diseases of the eye such as cataracts, retinal detachment, progressive retinopathy, or optic neuritis,
- b. ophthalmological procedures such as radial keratotomy or repair of retinal detachment,
- c. any other vision disorder or eye condition that results in an individual not being able to perform the essential functions of a police officer.

(c) Ears And Hearing

The medical evaluation shall minimally include audiograms performed in an ANSI approved sound-treated booth (ANSI S3.1-1999) with equipment calibrated to the ANSI S3.6-1996, or current, standard. If a booth is unavailable, the test room sound pressure levels should not exceed those specified in the Federal OSHA noise regulations (29 CFR 1910.95 Appendix D).

1a. Category A:

Hearing deficit in pure tone thresholds in both ears, the deficit in each ear averaging 35 dB HL or worse at 500, 1000, 2000, and 3000 Hz,

1b. Category A: Candidates failing the Category A standard and who still wish to be considered for appointment will be required to have follow-up examinations that include:

Full audiological examination, including speech reception threshold (SRT) and speech discrimination testing (NU-6 word lists) in both ears,
Full otological examination,

In order to pass:

Pure tone thresholds in better ear indicating average hearing levels at 500, 1000, 2000, and 3000 Hz to be lower than 35 dB HL,

AND

Performance score of 80% or better on the speech discrimination test in the better ear.

HEARING AIDS:

Initial hearing examinations (1.a.) must take place unaided. Candidates who cannot pass the initial examination should be referred to a certified audiologist for the follow-up examination. Candidates may use hearing aids for the follow-up examination. Candidates using hearing aids must pass the follow-up examination based on sound field-testing.

2. Category B medical conditions shall include:

- a. perforated tympanum,
- b. auditory canal - atresia, severe stenosis, or tumor,
- c. severe external otitis,
- d. auricle - severe agenesis or traumatic deformity,
- e. mastoid - severe mastoiditis or surgical deformity,
- f. Meniere's disease, labyrinthitis or any disorder of equilibrium,
- g. otitis media,
- h. any other hearing disorder or ear condition that results in an individual not being able to perform the essential functions of a police officer.

(d) Nose, Mouth, And Throat

1. Category A medical conditions shall include:

- a. tracheostomy,
- b. aphonia,
- c. loss of sense of smell,

- d. congenital or acquired deformities which interfere with wearing a gas mask.

2. Category B medical conditions shall include:

- a. congenital or acquired deformities not covered in Category A,
- b. defects of articulation that materially interfere with verbal communication
- c. defects of rate (stuttering, stammering, or cluttering) that interfere with verbal communication
- d. chronic severe rhinitis,
- e. any other nose, oropharynx, trachea, esophagus, or larynx condition that interferes with breathing or speech or otherwise results in an individual not being able to perform as a police officer or to communicate effectively.

(e) Respiratory

1. Category A medical conditions shall include:

- a. lung abscess or empyema,
- b. active tuberculosis,
- c. pneumothorax,
- d. interstitial disease with abnormal exercise oxygen desaturation,
- e. moderate to severe obstructive pulmonary disease, using the following criteria:
 - i. frequent exacerbation of symptoms (>1-2 times per week),
 - ii. cough and low grade wheezing between exacerbations,
 - iii. diminished exercise tolerance,
 - iv. signs of airway obstruction using spirometry,
 - v. required regular drug therapy other than inhaled steroids.

2. Category B medical conditions shall include:

- a. lobectomy or pneumonectomy,
- b. obstructive disease not meeting Category A criteria,
- c. chronic bronchitis,
- d. emphysema,
- e. bronchiectasis,
- f. history of bronchiectasis, bronchitis, fibrous pleuritis, fibrosis, cystic disease, tuberculosis, mycotic lung disease, or pneumothorax,
- g. interstitial disease with normal exercise oxygen saturation,
- h. any other respiratory condition that results in an individual not being able to perform as a police officer.

(f) Cardiovascular

1. Heart

- a. Category A medical conditions shall include:
 - i. current diagnosis of angina pectoris,
 - ii. congestive heart failure,
 - iii. aneurysm,
 - iv. acute or chronic pericarditis, endocarditis, or myocarditis. Endocarditis with resultant significant valvular lesions, or myocarditis leading to myocardial insufficiency,
 - v. cardiac or multi-organ transplant or left ventricular assist device,
 - vi. third degree AV block without cardiac pacemaker,
 - vii. coronary artery disease, cardiac hypertrophy, or other cardiac condition without evidence of a functional capacity greater than 8 METs,
 - viii. recurrent syncope,
 - ix. history of sudden cardiac death syndrome,
 - x. hemodynamically significant valvular heart disease,
 - xi. current diagnosis of embolism or thrombophlebitis,
 - xii. automatic implantable cardioverter defibrillator (AICD).
- b. Category B medical conditions shall include:
 - i. coronary artery disease not covered in Category A,
 - ii. significant arrhythmias,
 - iii. cardiac hypertrophy,
 - iv. history of myocardial infarction, coronary artery bypass, coronary angioplasty, stent placement, or atherectomy,
 - v. congenital abnormality,
 - vi. cardiac pacemaker,
 - vii. any other cardiac condition that results in an individual not being able to perform as a police officer.

2. Vascular System

- a. Category A medical conditions shall include:
 - i. congenital or acquired lesions of the aorta and major vessels,
 - ii. marked circulatory instability as indicated by orthostatic hypotension, persistent tachycardia, and severe peripheral vasomotor disturbances,
 - iii. aneurysm of a major vessel, congenital or acquired,
 - iv. untreated persistent hypertension (systolic blood pressure of 160 mmHg or greater or diastolic blood pressure of 100 mmHg or greater).
- b. Category B medical conditions shall include:

- i. persistent hypertension controlled through medication (systolic blood pressure less than 160 mmHg and diastolic blood pressure less than 100 mmHg),
- ii. peripheral vascular disease, including intermittent claudication, Raynaud's disease, and Buerger's disease,
- iii. recurrent thrombophlebitis,
- iv. chronic lymphedema,
- v. severe or symptomatic varicose veins or venous insufficiency,
- vi. any other vascular condition that results in an individual not being able to perform as a police officer.

(g) Gastrointestinal

(1) Category A medical conditions shall include:

- a. liver or multi-organ transplantation,
- b. active gastrointestinal bleeding.

(2) Category B medical conditions shall include:

- a. cholecystitis,
- b. gastritis,
- c. chronic or acute hepatitis,
- d. hernia,
- e. inflammatory bowel disease,
- f. intestinal obstruction,
- g. pancreatitis,
- h. bowel resection,
- i. gastrointestinal ulcer,
- j. cirrhosis,
- k. diverticulitis,
- l. any other gastrointestinal condition that results in an individual not being able to perform as a police officer.

(h) Reproductive

1. Category A medical conditions shall include:

- a. none.

2. Category B medical conditions shall include:

- a. pregnancy, for its duration. Any candidate who is pregnant shall be evaluated based on the candidate's ability to perform as a police officer. Such evaluation shall be based in part on the timing of training and duties as related to pregnancy duration and postpartum recovery. Furthermore, a pregnant candidate shall be informed of the potential risks to her fetus in the performance of essential job functions, due to possible exposures to hazardous materials and physical contact.

- b. any other reproductive condition that results in an individual not being able to perform as a police officer.

(i) Genitourinary

1. Category A medical conditions shall include:

- a. renal disease requiring dialysis,
- b. renal or multi-organ transplantation.

2. Category B medical conditions shall include:

- a. any other renal, urinary, or genital condition that results in an individual not being able to perform as a police officer.

(j) Neurological

1. Category A medical conditions shall include:

- a. ataxia,
- b. cerebral arteriosclerosis as evidenced by documented episodes of neurological impairment, including cerebrovascular accidents (CVAs) and transient ischemic attacks (TIAs),
- c. multiple sclerosis with activity or evidence of progression within previous three years,
- d. muscular dystrophy,
- e. myasthenia gravis,
- f. ALS,
- g. all seizure disorders and choreoathetosis to include psychomotor, focal, petit mal, or grand mal seizures other than for those with:
 - i. complete control during previous two (2) years with either no medication or a constant dose of the same medication,
 - ii. normal neurological examination, and
 - iii. definitive statement from qualified neurological specialist,
- h. dementia
- i. any disorder affecting equilibrium which is acute, episodic, chronic, or recurrent

2. Category B medical conditions shall include:

- a. congenital conditions and malformations,
- b. migraines,
- c. clinical disorders with paresis, paralysis, loss of coordination, abnormal motor function, or abnormalities of sensation,
- d. history of subdural, subarachnoid, or intracerebral hemorrhage,
- e. recent severe head contusion or concussion,
- f. any other neurological condition that results in an individual not being able to perform as a police officer.

(k) Skin

1. Category A medical conditions shall include:

- a. none.

2. Category B medical conditions shall include:

- a. non-localized, i.e., widespread, skin disease,
- b. extensive skin grafts,
- c. contact allergies,
- d. any other dermatologic condition that results in an individual not being able to perform as a police officer.

(l) Hematopoietic And Lymphatic

1. Category A medical conditions shall include:

- a. hemorrhagic states requiring replacement therapy, including hemophilia,
- b. sickle cell disease (homozygous),
- c. chronic anticoagulation therapy.

2. Category B medical conditions shall include:

- a. anemia, leukopenia, or thrombocytopenia,
- b. polycythemia vera,
- c. splenomegaly,
- d. history of thromboembolic disease,
- e. any other hematological condition that results in an individual not being able to perform as a police officer.

(m) Endocrine And Metabolic

1. Category A medical conditions shall include:

- a. uncontrolled diabetes mellitus or diabetes controlled through use of an insulin pump.

2. Category B medical conditions shall include:

- a. diseases of the adrenal gland, pituitary gland, parathyroid gland, or thyroid gland of clinical significance,
- b. nutritional deficiency disease or metabolic disorder,
- c. diabetes mellitus not covered in Category A,
- d. any other endocrine or metabolic condition that results in an individual not being able to perform as a police officer.

(n) Tumors And Malignant Disease

1. Category A medical conditions shall include:

- a. none.

2. Category B medical conditions shall include:

- a. malignant disease which is newly diagnosed, untreated, or currently being treated. The medical evaluation of any candidate with malignant

disease which is newly diagnosed, untreated, or currently being treated shall be deferred until treatment has been completed. Treated malignant disease shall be evaluated based on that individual's current physical condition and on the likelihood of that individual's disease to recur or progress.

- b. any other tumor or malignancy that results in an individual not being able to perform as a police officer.

(o) Psychiatric

1. Category A medical conditions shall include:

- a. disorders of behavior,
- b. anxiety disorders,
- c. disorders of thought,
- d. disorders of mood.
- e. disorders of personality

2. Category B medical conditions shall include:

- a. a history of any psychiatric condition, behavior disorder, or substance abuse problem not covered in Category A. Such history shall be evaluated based on that individual's history, current status, prognosis, and ability to respond to the stressors of the job,
- b. any other psychiatric condition that results in an individual not being able to perform as a police officer.

(p) Conditions Not Otherwise Covered

1. Category A medical conditions shall include:

- a. none.

2. Category B medical conditions shall include:

- a. connective tissue and autoimmune diseases, including dermatomyositis, lupus erythematosus, scleroderma, and rheumatoid arthritis,
- b. history of heat stroke, frostbite, or other thermal injury,
- c. potentially transmissible infectious disease, including HIV and AIDS,
- d. any other systemic condition that results in an individual not being able to perform as a police officer.

(q) Chemicals, Drugs, And Medications

1. Category A medical conditions shall include:

- a. active alcoholism or substance abuse.

2. Category B medical conditions shall include the regular use of various chemicals and drugs, including -- but not limited to -- the following categories:

- a. cardiovascular agents,
- b. narcotics,
- c. sedative-hypnotics,

- d. stimulants,
- e. psychoactive agents
- f. systemic steroids,

g. any other chemical, drug, or medication that results in an individual not being able to perform as a police officer.

V. Medical Standards for Municipal Fire Fighters*

(1)* Medical Evaluation¹: Each municipal fire department shall establish and implement a pre-placement medical evaluation for candidates. During the medical evaluation, the physician shall evaluate each individual to ascertain the presence of any medical conditions listed in these standards, or any medical conditions not listed which would prevent the individual from performing the essential job functions without posing significant risk. It is our intent to encourage the use of professional judgment regarding medical conditions which are not specifically listed. A candidate shall not be certified as meeting the medical requirements of these standards if the physician determines that the candidate has any Category A medical condition specified in these standards. Furthermore, a candidate shall not be certified as meeting the medical requirements of these standards if the physician determines that the candidate has a Category B medical condition that is of sufficient severity to prevent the candidate from performing the essential functions of a fire fighter without posing a significant risk to the safety and health of him/herself or others.

(2)* The medical evaluation shall minimally include the following:

- (a) a comprehensive medical history
- a baseline (pre-placement) occupational history, including significant past exposures and training and experience with personal protection equipment
- (b) height and weight
- (c) vital signs: pulse, respiration, blood pressure, and, if indicated, temperature
- (d) dermatological system
- (e) ears, eyes, nose, mouth, throat
- (f) cardiovascular system
- (g) respiratory system
- (h) gastrointestinal system
- (i) genitourinary system
- (j) endocrine and metabolic systems
- (k) musculoskeletal system
- (l) neurological system
- (m) mental status evaluation. Based on the severity, diagnosis, and impairment of any identified behavior or condition, the initial examiner is encouraged to consider referral of the applicant to a doctoral level mental health professional for further evaluation. In general, the current or recent use of psychotropic medications shall be reviewed by a Board certified psychiatrist.

¹ Physicians are also advised to ascertain the presence of any medical conditions listed in the National Fire Protection Association's (NFPA) 1582, *Medical Requirements for Fire Fighters*, which would prevent the individual from performing the essential job functions without posing a significant risk.

- (n) audiometry. Audiograms should be performed in an ANSI approved "soundproof" booth (ANSI S3.1-1977) with equipment calibrated to ANSI standards (ANSI S3.6-1973). If a booth is unavailable, the test room sound pressure levels should not exceed those specified in the Federal OSHA noise regulations (29 CFR 1910.25),
- (o) visual acuity and peripheral vision testing
- (p) pulmonary function testing. A baseline test should be administered by an experienced individual. Only a spirogram that is technically acceptable and demonstrates the best efforts by an individual should be used to calculate the Forced Vital Capacity (FVC) and Forced Expiratory Volume in one second (FEV1.0),
- (q) review of hepatitis B immunization status including hepatitis B surface antibody titer if immunized, offer of hepatitis B vaccine if not fully immunized or HbgAb titer less than 10 and documentation of declination if vaccination refused by examinee,
- (r) a Purified Protein Derivative (PPD) test for tuberculosis, based on individual departmental infection control plans, and,
- (s) other diagnostic testing where indicated.

(3)* The medical evaluation process should also include:

- (a) a review of tetanus immunization status.

(4)* All medical information collected as part of a medical evaluation shall be considered confidential medical information, and shall be released by the physician only with the specific written consent of the candidate. The physician shall report the results of the medical evaluation to the candidate, including any medical condition(s) disclosed during the medical evaluation, and the recommendation whether the candidate is medically certified to perform as a fire fighter. The physician shall inform the fire department only whether or not the candidate is medically certified to perform as a fire fighter. The specific written consent of the candidate shall be required to release confidential medical information to the fire department, following guidelines set forth under the Americans With Disabilities Act (ADA) and other relevant policies.

(5) Category A and Category B Medical Conditions:

- (a) A Category A Medical Condition is a medical condition that would preclude an individual from performing the essential job functions of a municipal fire fighter in a training or emergency operational environment, or present a significant risk to the safety and health of that individual or others.
- (b) A Category B Medical Condition is a medical condition that, based on its severity or degree, may or may not preclude an individual from performing the essential job functions of a municipal fire fighter in a training or emergency operational environment, or present a significant risk to the safety and health of that individual or others.

(6) The following biological systems shall be components of the Initial Medical Standards for fire fighters:

- (a) Musculoskeletal

1. Head and Skull

a. Category A medical conditions shall include:

- i. none.

b. Category B medical conditions shall include:

- i. deformities of the skull or loss or congenital absence of the bony substance of the skull which limit the ability to wear a mask and/or protective breathing apparatus,
- ii. thoracic outlet syndrome sufficient to compromise required activity,
- iii. congenital cysts, chronic draining fistulas, or similar lesions,
- iv. any other head condition that results in an individual not being able to perform the job of fire fighter.

2. Neck and Cervical Spine

a. Category A medical conditions shall include:

- i. none

b. Category B medical conditions shall include:

- i. cervical arthrodesis/fusion,/instability
- ii. cervical canal stenosis,
- iii. cervical radiculopathy or myelopathy,
- iv. herniated disc,
- v. degenerative disc disease,
- vi. abnormal chronic contraction of neck muscles,
- vii. any other neck condition that results in an individual not being able to perform the job of municipal fire fighter

3. Thoracic/lumbar/sacral Spine

a. Category A medical conditions shall include:

- i. symptomatic spondylolisthesis, whether or not surgically corrected.

b. Category B medical conditions shall include:

- i. lumbar laminectomy or discectomy, with or without fusion.
- ii. degenerative disease/spondylolysis/pars defect
- iii. structural abnormality, fracture, or dislocation,
- iv. degenerative disk disease,
- v. herniated disk/sciatica/radiculopathy,
- vi. spinal stenosis,
- vii. spinal surgery not covered in Category A,
- viii. any other spinal condition that results in an individual not being able to perform the job of fire fighter

4. Extremities

a. Category A medical conditions shall include:

- i. hemipelvectomy,
- ii. hip disarticulation,
- iii. above-the-ankle amputation,
- iv. upper extremity amputation at or above the wrist

b. Category B medical conditions shall include:

- i. severe limitation of motion of a joint, fibrosis, or arthrodesis,
- ii. other amputations not covered in Category A,
- iii. total joint arthroplasty:
 - i. shoulder
 - ii. elbow
 - iii. wrist
 - iv. hip
 - v. knee
- iv. deformity or dislocation of a joint or limb,
- v. joint reconstruction, ligamentous instability, or joint replacement not covered in (iii),
- vi. chronic osteoarthritis or traumatic arthritis,

- vii. inflammatory arthritis,
- viii. osteomyelitis,
- ix. compressive neuropathies including carpal tunnel syndrome or ulnar nerve palsy,
- x. required use of stabilizing orthopedic braces,
- xi. any other extremity condition that results in an individual not being able to perform the job of fire fighter

(b) Eyes And Vision

The medical evaluation shall minimally include visual acuity (Snellen) and peripheral vision testing using a Titmus or Optec Vision Screener or other similar standardized testing device. Contact lenses are not permitted to meet the uncorrected standard. When the candidate is being tested, he/she must present without wearing contact lenses **for at least 24 hours**, so that uncorrected vision can be accurately tested.

1. Category A medical conditions shall include:

- a. uncorrected vision worse than 20/100 in either eye,
- b. corrected vision worse than 20/20 in the better eye UNLESS – the vision in the good eye alone is at least 20/25 AND the vision with both eyes together is 20/20 or better.
- c. peripheral vision of less than 70 degrees temporally and 45 degrees nasally in either eye AND/OR any history of conditions limiting field of vision will necessitate additional assessment by an eye care professional who will use a Goldmann-type perimeter to determine if the binocular visual field is 140 degrees (at least 70 degrees temporally in each eye) with a III4e isopter.

2. Category B medical conditions shall include:

- a. diseases of the eye such as cataracts, retinal detachment, progressive retinopathy, or optic neuritis,
- b. ophthalmological procedures such as radial keratotomy or repair of retinal detachment,
- c. any other vision disorder or eye condition that results in an individual not being able to perform the essential functions of a fire fighter.

(c) Ears And Hearing

The medical evaluation shall minimally include audiograms performed in an ANSI approved sound-treated booth (ANSI S3.1-1999) with equipment calibrated to the ANSI S3.6-1996, or current, standard. If a booth is unavailable, the test room sound pressure levels should not exceed those specified in the Federal OSHA noise regulations (29 CFR 1910.95 Appendix D).

1a. Category A (Failure of general standard):

Hearing deficit in pure tone thresholds in both ears, the deficit in each ear averaging 35 dB HL or worse at 500, 1000, 2000, and 3000 Hz,

1b. Category A: Candidates failing the Category A standard and who still wish to be considered for appointment will be required to have follow-up examinations that include:

Full audiological examination, including speech reception threshold (SRT) and speech discrimination testing (NU-6 word lists) in both ears,

Full otological examination,

In order to pass:

Pure tone thresholds in better ear indicating average hearing levels at 500, 1000, 2000, and 3000 Hz to be lower than 35 dB HL,

AND

Performance score of 80% or better on the speech discrimination test in the better ear.

2. Category B medical conditions shall include:

- a. perforated tympanum,
- b. auditory canal - atresia, severe stenosis, or tumor,
- c. severe external otitis,
- d. auricle - severe agenesis or traumatic deformity,
- e. mastoid - severe mastoiditis or surgical deformity,
- f. Meniere's disease, labyrinthitis or any disorder of equilibrium,
- g. otitis media,
- h. any other hearing disorder or ear condition that results in an individual not being able to perform the essential functions of a fire fighter.

HEARING AIDS: Non-implantable hearing aids are not permitted; must pass above-described standards unaided, or pass with the use of implantable hearing aids based on sound field-testing.

(d) Dental

1. Category A medical conditions shall include:

- a. dental, jaw structural, or other abnormalities which preclude the ability to be fitted for and safely use protective equipment.

2. Category B medical conditions shall include:

- a. diseases of the jaws or associated tissues,
- b. orthodontic appliances,
- c. oral tissues, extensive loss,
- d. any other dental condition that results in an individual not being able to perform as a fire fighter.

(e) Nose, Mouth, And Throat

1. Category A medical conditions shall include:

- a. tracheostomy,
- b. aphonia,
- c. congenital or acquired deformities which interfere with wearing a face mask or other required protective equipment.

2. Category B medical conditions shall include:

- a. congenital or acquired deformities not covered in Category A,
- b. defects of articulation that materially interfere with verbal communication
- c. defects of rate (stuttering, stammering, or cluttering) that interfere with verbal communication
- d. chronic severe rhinitis,
- e. any other nose, oropharynx, trachea, esophagus, or larynx condition that interferes with breathing or speech or otherwise results in an individual not being able to perform as a police officer or to communicate effectively.

(f) Respiratory

1. Category A medical conditions shall include:

- a. lung abscess or empyema,
- b. active tuberculosis,
- c. pneumothorax,
- d. interstitial disease with abnormal exercise oxygen desaturation,
- e. moderate to severe obstructive pulmonary disease, using the following criteria:
 - i. frequent exacerbation of symptoms (>1-2 times per week),
 - ii. cough and low grade wheezing between exacerbations,
 - iii. diminished exercise tolerance,
 - iv. signs of airway obstruction using spirometry,
 - v. regular drug therapy required.

2. Category B medical conditions shall include:

- a. lobectomy or pneumonectomy,
- b. obstructive disease not meeting Category A criteria,
- c. chronic bronchitis,
- d. emphysema,
- e. bronchiectasis,
- f. history of bronchiectasis, bronchitis, fibrous pleuritis, fibrosis, cystic disease, tuberculosis, mycotic lung disease, or pneumothorax,
- g. interstitial disease with normal exercise oxygen saturation,
- h. any other respiratory condition that results in an individual not being able to perform as a fire fighter.

(g) Cardiovascular

1. Heart

- a. Category A medical conditions shall include:
 - i. current diagnosis of angina pectoris,
 - ii. congestive heart failure,
 - iii. aneurysm,
 - iv. acute or chronic pericarditis, endocarditis, or myocarditis. Endocarditis with resultant significant valvular lesions, or myocarditis leading to myocardial insufficiency,
 - v. cardiac or multi-organ transplant or left ventricular assist device,
 - vi. third degree AV block without cardiac pacemaker,
 - vii. coronary artery disease, cardiac hypertrophy, or other cardiac condition without evidence of a functional capacity greater than 9 METs,
 - viii. recurrent syncope,
 - ix. history of sudden cardiac death syndrome,
 - x. hemodynamically significant valvular heart disease,
 - xi. current diagnosis of embolism or thrombophlebitis,
 - xii. automatic implantable cardioverter defibrillator (AICD).
- b. Category B medical conditions shall include:
 - i. coronary artery disease not covered in Category A,
 - ii. significant arrhythmias,
 - iii. cardiac hypertrophy,
 - iv. history of myocardial infarction, coronary artery bypass, coronary angioplasty, stent placement, or atherectomy,

- v. congenital abnormality,
- vi. cardiac pacemaker,
- vii. any other cardiac condition that results in an individual not being able to perform as a fire fighter.

2. Vascular System

- a. Category A medical conditions shall include:
 - i. congenital or acquired lesions of the aorta and major vessels,
 - ii. marked circulatory instability as indicated by orthostatic hypotension, persistent tachycardia, and severe peripheral vasomotor disturbances,
 - iii. aneurysm of a major vessel, congenital or acquired,
 - iv. untreated persistent hypertension (systolic blood pressure of 160 mmHg or greater or diastolic blood pressure of 100 mmHg or greater).
- b. Category B medical conditions shall include:
 - i. persistent hypertension controlled through medication (systolic blood pressure less than 160 mmHg and diastolic blood pressure less than 100 mmHg),
 - ii. peripheral vascular disease, including intermittent claudication and Raynaud's phenomenon,
 - iii. thrombophlebitis,
 - iv. chronic lymphedema,
 - v. severe varicose veins,
 - vi. any other vascular condition that results in an individual not being able to perform as a fire fighter.

(h) Gastrointestinal

1. Category A medical conditions shall include:
 - a. liver or multi-organ transplantation,
 - b. active gastrointestinal bleeding.
2. Category B medical conditions shall include:
 - a. cholecystitis,
 - b. gastritis,
 - c. chronic or acute hepatitis,
 - d. hernia,
 - e. inflammatory bowel disease,
 - f. intestinal obstruction,
 - g. pancreatitis,
 - h. bowel resection,

- i. gastrointestinal ulcer,
- j. cirrhosis,
- k. diverticulitis,
- l. any other gastrointestinal condition that results in an individual not being able to perform as a fire fighter.

(i) Reproductive

1. Category A medical conditions shall include:

- a. none.

2. Category B medical conditions shall include:

- a. pregnancy, for its duration. Any appointee who is pregnant shall be evaluated based on the appointee's ability to perform as a fire fighter in a training or emergency operational environment. Furthermore, a pregnant appointee shall be informed of the potential risks to her fetus due to possible exposures during fire fighter duties
- b. any other reproductive condition that results in an individual not being able to perform as a fire fighter.

(j) Genitourinary

1. Category A medical conditions shall include:

- a. renal disease requiring dialysis,
- b. renal or multi-organ transplantation.

2. Category B medical conditions shall include:

- a. any other renal, urinary, or genital condition that results in an individual not being able to perform as a fire fighter.

(k) Neurological

1. Category A medical conditions shall include:

- a. ataxia,
- b. cerebral arteriosclerosis as evidenced by documented episodes of neurological impairment, including cerebrovascular accidents (CVAs) and transient ischemic attacks (TIAs),
- c. multiple sclerosis with activity or evidence of progression within previous three (3) years,
- d. muscular dystrophy,
- e. myasthenia gravis,
- f. ALS,
- g. all seizure disorders and choreoathetosis to include psychomotor, focal, petit mal, or grand mal seizures other than for those with:

- i. complete control during previous five (5) years with either no medication or a constant dose of the same medication,
- ii. normal neurological examination, and
- iii. definitive statement from qualified neurological specialist,
- h. dementia,
- i. any disorder affecting equilibrium which is acute, episodic, chronic, or recurrent.

2. Category B medical conditions shall include:

- a. congenital conditions and malformations,
- b. migraines,
- c. clinical disorders with paresis, paralysis, loss of coordination, abnormal motor function, or abnormalities of sensation,
- d. history of subdural, subarachnoid, or intracerebral hemorrhage,
- e. recent severe head contusion or concussion,
- f. any other neurological condition that results in an individual not being able to perform as a fire fighter.

(l) Skin

1. Category A medical conditions shall include:

- a. none.

2. Category B medical conditions shall include:

- a. non-localized, i.e., widespread, skin disease.
- b. extensive skin grafts,
- c. any other dermatologic condition that results in an individual not being able to perform as a fire fighter.

(m) Hematopoietic And Lymphatic

1. Category A medical conditions shall include:

- a. hemorrhagic states requiring replacement therapy, including hemophilia,
- b. sickle cell disease (homozygous).

2. Category B medical conditions shall include:

- a. anemia, leukopenia, or thrombocytopenia or chronic anticoagulation therapy,
- b. polycythemia vera,
- c. splenomegaly,
- d. history of thromboembolic disease,

- e. any other hematological condition that results in an individual not being able to perform as a fire fighter.

(n) Endocrine And Metabolic

1. Category A medical conditions shall include:

- a. uncontrolled diabetes mellitus.

2. Category B medical conditions shall include:

- a. diseases of the adrenal gland, pituitary gland, parathyroid gland, or thyroid gland of clinical significance,
- b. nutritional deficiency disease or metabolic disorder,
- c. diabetes mellitus not covered in Category A,
- d. any other endocrine or metabolic condition that results in an individual not being able to perform as a fire fighter.

(o) Tumors And Malignant Disease

1. Category A medical conditions shall include:

- a. none.

2. Category B medical conditions shall include:

- a. malignant disease which is newly diagnosed, untreated, or currently being treated. The medical evaluation of any appointee with malignant disease which is newly diagnosed, untreated, or currently being treated shall be deferred until treatment has been completed. Treated malignant disease shall be evaluated based on that individual's current physical condition and on the likelihood of that individual's disease to recur or progress.
- b. any other tumor or malignancy that results in an individual not being able to perform as a fire fighter.

(p) Psychiatric

1. Category A medical conditions shall include:

- a. none.

2. Category B medical conditions shall include:

- a. a history of any psychiatric condition, behavior disorder, or substance abuse problem not covered in Category A. Such history shall be evaluated based on that individual's history, current status, prognosis, and ability to respond to the stressors of the job,
- b. any other psychiatric condition that results in an individual not being able to perform as a fire fighter.

(q) Conditions Not Otherwise Covered

1. Category A medical conditions shall include:

- a. none.

2. Category B medical conditions shall include:

- a. connective tissue and autoimmune diseases, including dermatomyositis, lupus erythematosus, scleroderma, and rheumatoid arthritis,
- b. history of heat stroke, frostbite, or other thermal injury,
- c. potentially transmissible infectious disease, including HIV and AIDS,
- d. any other systemic condition that results in an individual not being able to perform as a fire fighter.

(r) Chemicals, Drugs, And Medications

1. Category A medical conditions shall include:

- a. active alcoholism or substance abuse.

2. Category B medical conditions shall include the regular use of various chemicals and drugs, including -- but not limited to -- the following categories:

- a. anticoagulant agents,
- b. cardiovascular agents
- c. narcotics,
- d. sedative-hypnotics,
- e. stimulants,
- f. psychoactive agents,
- g. systemic steroids,
- h. any other chemical, drug, or medication that results in an individual not being able to perform as a fire fighter.

*** Special Notations:**

This is the amended version of the Commonwealth of Massachusetts Human Resource Division's (HRD) Initial Hire Medical Standards for Municipal Fire Fighters. In amending this document, HRD adopted the 1997 edition of NFPA 1582, Standard on Medical Requirements for Firefighters as the basis for its regulations. Also, per agreement with the NFPA in acknowledgement and appreciation for the prior work performed by the NFPA in the development of these standards, HRD is presenting its medical standards for fire fighters in the enclosed format.

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An asterisk (*) following the number or letter designating a paragraph indicates portions of NFPA 1582 that have been adopted.

VI. MUNICIPAL POLICE OFFICER ESSENTIAL FUNCTIONS

A. PATROL AND INCIDENT RESPONSE
Provide back-up to other police personnel.
In response to a report of child abuse, observe and evaluate the physical or mental condition of the child, notify the appropriate agencies, and/or place the child in protective custody to protect the child from physical or mental harm.
Respond to a crime in progress and secure the area to effect an arrest.
When confronted with victim(s), conduct assessment and administer immediate care to prevent further injury, trauma, or death.
Communicate/negotiate with a hostage taker to reduce his/her anxiety and prevent the loss of life pending arrival of hostage negotiator.
Appraise the situation, separate individuals, and discuss the grievances to restore order at a domestic dispute.
Use communications equipment (e.g., radio, computer, telephone) to exchange information relative to official duties (e.g., reporting status and location to dispatcher, maintaining contact with other agencies).
Operate a Department vehicle at a high rate of speed, using emergency lights and siren and maintaining public safety, to respond to emergency calls for service.
Request assistance from other police personnel.
Respond to an alarm, secure area, and inspect for entry to protect life and property and apprehend the violator or violators.
Participate in a large scale coordinated search for one or more persons (e.g., escapees, missing residents of mental health facilities, lost people, etc) to locate or apprehend the person(s).
Separate individuals in a fight or disturbance (not a domestic dispute) to restore order and minimize injury to those individuals or property.
Operate a Department vehicle under non-emergency conditions within a specific geographic area to observe and detect unusual activities or circumstances, or violations of the law in order to deter crime and provide service to the public.
Protect one or more persons (confidential sources, witnesses, etc.) to provide for the safety and security of the person(s) and the public.
Respond to incidents requiring your presence as specified in Departmental policies.
Maintain current information such as names, faces, and previous arrest records of known criminals believed to be in the area.
Observe and check entrances to buildings and premises to maintain security of property.
Identify a person as disturbed (e.g., mentally, emotionally) or incapacitated (e.g., drunk, epileptic) and detain that person in order to provide for placement.
Erect physical barriers, bodily serve as a barrier, issue verbal commands, and/or utilize the necessary degree of authority to effect the safe, peaceful, and orderly flow of a crowd of people.
Patrol a specific geographic area on foot to observe and detect unusual activities or circumstances, or violations of the law.
Serve on special details to help maintain peace (e.g., abortion demonstrations, animal rights).

B. TRAFFIC ENFORCEMENT
When outside of vehicle (e.g., making a traffic stop), monitor pedestrian or vehicular traffic to reduce risk of injury to self or others and take evasive action when necessary.
Conduct field sobriety tests to determine probable cause for breath or blood test and/or arrest for alcohol or drug use.
Protect an accident scene to allow for a determination of the facts of the accident.
Direct/reroute traffic, place emergency signaling devices (e.g., flares) or take other necessary action to ensure a safe and orderly flow of traffic when confronted with unusual traffic conditions (e.g., accidents, stoplight out, parades).
Determine the status (e.g., stolen, disabled) of a stopped or abandoned vehicle, including checking for inhabitants (e.g., children, victims).
Estimate vehicle speed visually or use speed detection equipment (e.g., radar, lidar, vascar, stopwatches) to determine the speed of a vehicle.
Stop vehicles for cause and check for required documents, defective equipment (e.g., headlights, tires), and other violations to issue citations or warnings and to aid in the safe and legal operation of vehicles on the road.
Issue a citation to a traffic violator.
Impound or supervise impounding of equipment or vehicles left on the roadway.
C. INVESTIGATIONS
Identify and collect evidence at a crime scene to preserve that evidence for use in an investigation.
Protect a crime scene from contamination by controlling access to the scene and erecting physical barriers to preserve the evidence of a crime.
Document the elements of a crime and identify potential witnesses and suspects to produce a prosecutable case.
Evaluate evidence (e.g., article, substance) to determine its relationship to an investigation.
Transport evidence to various locations (e.g., lab, court), maintaining an unbroken chain of custody.
Canvass the neighborhood, asking questions of persons in order to locate and identify one or more witnesses, victims, or suspects of a crime.
Inspect a suspected controlled substance to make a preliminary determination of its identity and request further lab tests as needed.
Determine the probable facts of the incident from examination and comparison of statements and other evidence.
Interview and take written statements from the general public, witnesses, victims, or suspects to obtain and record information pertinent to the enforcement, regulatory, and service functions of the Department.
Evaluate individuals to determine their credibility and/or manner in which they should be handled (e.g., during interrogations).
Identify assets for potential seizure at a crime scene.
Observe one or more persons, places, and/or things to collect information and evidence of criminal activities.
D. ARREST-RELATED ACTIVITIES
Display or discharge a Departmentally approved firearm to protect self and/or the public.
Display or utilize a Departmentally issued non-firearm weapon (baton, spray) in a defensive manner to control one or more persons in accordance with Department policy.

Search one or more persons for weapons, fruits of a crime, or contraband to effect an arrest, protect oneself and the public, and/or to obtain evidence.
Search a vehicle for weapons, fruits of crime, or contraband to effect an arrest, protect self and the public, and/or to obtain evidence.
Distinguish between felony and misdemeanor classifications when making arrests.
Search a building for individuals, weapons, fruits of a crime, or contraband to effect an arrest, protect self and the public, and/or to obtain evidence.
Physically restrain or subdue a violent or resisting individual or arrestee to protect self, the person being restrained, and the public, or to effect custody of an arrestee.
Determine applicability of Miranda when arresting and detaining suspects.
Signal a felon to stop (e.g., emergency light, siren, P.A.) in order to effect an arrest or contain the felon and await backup.
Make judgments about probable cause for warrantless searches.
Operate a Department vehicle at a high rate of speed, maintaining public safety and in compliance with Departmental pursuit policy, to pursue and apprehend one or more violators.
Determine whether suspects require medical attention.
Physically restrain or control a non-violent individual or arrestee to protect self, the person being restrained, and the public, or to effect custody of an arrestee.
Ensure prisoners are held and detained in compliance with Departmental policy and applicable statutes.
Legally force entry into building to apprehend suspect and/or evidence.
Record the arrest of an individual (e.g., fill out forms, photograph) to document that arrest and possible detention.
Pursue a suspect or violator on foot.
Review computer and/or booking sheet to obtain information about booked suspects (e.g., criminal history, outstanding warrants).
Make recommendations for strip or body cavity search.
Transport person(s) (e.g., witness, victim), maintaining safety, for some official purpose.
E. EVIDENCE/PROPERTY MANAGEMENT
Ensure the secure storage of evidence and property in the designated location.
Ensure the maintenance of chain of custody for evidence.
Release property or evidence to authorized individuals.
F. RECORD AND REPORT MANAGEMENT
Write narrative reports (e.g., incident reports, intelligence reports) providing complete, accurate and consistent information.
Summarize in writing the statements of witnesses and complainants.
Fill in forms requiring specific information accurately and completely.
Record information required by Department guidelines in proper logs.
Document incoming communications (e.g., requests for information, training) and communicate that information to other personnel as necessary.
Maintain logs (written and/or computerized) of activities occurring during the shift (e.g., accidents, significant incidents) to maintain a record.
G. COURT
Appear and testify as a witness in an official proceeding (e.g., traffic court, trial, Civil Service hearing) to assist in fulfilling the Department's role in the judicial and administrative process.
Review search and arrest warrants prior to presentation to judge or prosecutor for

signing.
Review and discuss the details of a specific investigation with prosecutor to plan investigatory strategy, prepare for a court presentation, etc.
Prepare search or arrest warrants.
H. COMMUNITY RELATIONS
Communicate with neighborhood youths to facilitate police-community relationships and deter criminal behavior.
Participate in cooperative operations (e.g., Task Forces, executing warrants) to address community conditions and crime.
Contact the immediate family of an individual (in person) or notify uniformed personnel to provide information to the family concerning that person's injury or death.
Attend meetings (e.g., community meetings, concerned citizens) to discuss and exchange information, address problems, coordinate and develop plans of action, etc.
Provide information upon request to individuals and groups (e.g., business people, neighborhood groups) to increase awareness of potential victimization and deter crime.
Provide assistance and information to civilians seeking help (e.g., directions, explanations of municipal codes and ordinances, referrals to other Department personnel or other agencies/entities).
Maintain current information about available social agencies and their roles for use in referring citizens seeking help.
Discuss police actions with relatives of prisoners or complainants.
I. POLICE DEPARTMENT PROPERTY MANAGEMENT
Clean and inspect weapons.
Conduct inventory of assigned vehicles and equipment to ensure that necessary equipment is available when needed.
Recognize vehicle and/or equipment damage or malfunctions(s) and ensure that necessary repairs are performed.
Maintain clothing and personal equipment to satisfy inspection requirements.
Maintain personal copies of Departmental directives as required by Department policy.
J. DIRECT SUPERVISION
Attend roll call.
K. PERSONNEL EVALUATION AND COUNSELING
L. PERSONNEL ASSIGNMENT AND COORDINATION
M. TRAINING DELIVERY
N. COMMAND
Monitor police activity by radio.
O. INTERNAL/EXTERNAL COMMUNICATIONS & COORDINATION
Notify dispatcher of special conditions that may affect or are affecting sector operations as required by Department procedures.
Communicate with other Department personnel informally to discuss and exchange information (e.g., intelligence), address problems, etc.
Monitor and respond to routine communications (e.g., phone).
Consult with superior to provide/receive assistance with assigned operational activities and keep him/her apprised of potential developments/problems.
Request documents in records systems (e.g., pictures, criminal histories, etc.).
Notify other Police Department units of unusual situations and conditions as necessary and appropriate.

Contact other police Departments and law enforcement agencies (e.g., FBI) for information and assistance.
Communicate with individuals from other city/state/federal agencies/entities to exchange information and accomplish work objectives.
Respond to requests for information from superior personnel.
Answer investigative inquiries from other law enforcement agencies or refer inquiry appropriately.
Contact outside agencies and organizations (e.g., social service agencies) for information.
P. RESEARCH AND PLANNING
Q. FINANCIAL MANAGEMENT
R. PROFESSIONAL DEVELOPMENT
Participate in in-service training and recertification programs including firearms, policies, and practical/tactical exercises (e.g., defensive tactics) to receive information and develop skills.
Read and keep up-to-date on federal, state, and local statutes/ordinances and court decisions to ensure appropriate enforcement and investigatory activities.
Read internal reports and training materials to keep current on procedures and issues.
Read and keep up-to-date on Departmental policies and procedures to ensure appropriate enforcement, investigatory, and administrative activities.
Read outside literature (e.g., texts and journals) to keep current on law enforcement topics.

VII. MUNICIPAL ESSENTIAL FUNCTIONS

I. EMERGENCY SCENE RESPONSE: HANDS ON
A. INITIAL RESPONSE TO INCIDENTS
Tasks occurring between the receipt of an alarm and initial fire fighting or emergency scene activities.
Don protective turnout gear and equipment before and at emergency scenes.
Proceed to assigned apparatus upon receipt of call for service.
Make preliminary evaluation of incident based on alarm information received (e.g., alarm type, structure type, etc.).
B. WATCH DUTIES
Stand watch to receive incoming alarms and information, answers phones, and monitors access to the station house.
Provide alarm communiqué to equipment operators/officers.
Test alarms and dispatch equipment.
Notify station personnel (over public address or through use of signals) of incoming alarms and required response (e.g., everybody goes, truck only, engine only, etc.).
Receive notification of multiple alarms, downtown alarms, and other significant emergencies through the Fire Alarm Office.
Record administrative and general information messages that come in over the computer dispatch.
Answer department and outside phone.
Open and closes fire house doors to allow apparatus or Chief's car to depart/return to house.
C. DRIVING
Drive apparatus to and from, and positions apparatus at, emergency scene.
Drive apparatus safely to designated place.
Select most direct and expeditious route to alarm site.
Maneuver and positions apparatus at incident scene.
Obtain knowledge of most direct and expeditious routes and studies them prior to incident response.
Obtain knowledge of traffic laws and street conditions in order to operate the apparatus safely and expeditiously.
Plan route and position based on anticipated actions (e.g., arrival routes) of other companies when driving to multiple alarm calls.
D. PUMP OPERATIONS
Connect or hooks up apparatus to fire hydrant and operates pumps to supply water in appropriate pressure and volume – using hydrant wrenches, couplings, hoses, spanner wrenches, and other tools.
Engage pumps.
Fill hose with water by hydrant pressure.
Connect and lays feeder line to supply water to fire.
Pump sprinkler system and wet or dry standpipe systems.
Connect suction hose between hydrant and engine.
Monitor control panel (e.g., water temperature, oil pressure gauge, fuel gauge, hydrant pressure).
Pump pre-connect hose-line.
Pump master stream (e.g., aerial ladders).

Hook up to ladder pipe to supply water during aerial ladder operations.
Notify officer of any problems which occur while pumping.
Adjust water pressure (by rule-of-thumb, according to pressure chart, and/or Rules and Regulations) in response to calls for more or less pressure.
Pump using specialty nozzles (e.g. drive-in, cellar distributor).
Implement cold weather procedures (e.g., tank circulation) when necessary.
Maintain pressure by adjusting pressure relief valve or automatic pressure governor.
Transfer from pressure stage to volume stage.
Pump booster lines.
Open and flush hydrant to ensure it is functional.
Shut down pump when ordered to by officer.
Check hydrant for proper drainage.
E. HOSE (AND EXTINGUISHER) OPERATIONS
Stretch line or use extinguisher to deliver water, foam and other extinguishing agents to emergency scene.
Operate nozzle at front of hose line and spray water, foam or other agent onto fire or other hazard, or into involved structure, to extinguish, contain and/or control incident.
Locate seat of fire or other hazard (e.g., gas leak) by observing, smelling or listening for smoke, sound, flames, gas, vapors, etc.
Advance or assist in advancing hose to seat of fire or other hazard.
Disconnect hose from bed and attach to discharge gate.
Determine type (size) and number of lengths of hose needed for operation.
Connect to standpipe during high rise incident command.
Connect hose lines to nozzle(s).
Use extinguisher to extinguish, contain and/or control incident.
Select type of extinguisher (e.g., foam, dry-chemical, etc.) needed for incident.
Feed hose line to other fire personnel.
Determine proper nozzle and nozzle setting.
Operate stang on tower ladder to apply water to structures on fire.
Pull hose off hose bed.
Flake out or dekind hose line prior to charging or during extinguishment to ensure proper operation.
F. MECHANICAL LADDER OPERATIONS
Stabilize ladder truck and elevate and operate aerial ladders and platforms in order to rescue victims, provide access for ventilation, operate master stream devices, etc.
Climb mechanical ladders to perform search, rescue and other operations.
Operate ladder from ground controls or from platform controls, while watching for power lines, trees and other overhead obstructions.
Elevate, rotate and extend aerial or tower ladder for supported and unsupported operation, while watching for power lines, trees and other overhead obstructions.
Stabilize elevating apparatus using wheel chocks, stabilizing pads, stabilizing jacks and outriggers.
Operate and direct ladder pipe to supply water during aerial ladder operations.
G. MANUAL LADDER OPERATIONS
Carry, raise, extends and climbs manual ladders to perform search, rescue and other operations.
Extend manual (extension) ladders to reach victims.
Climb manual ladder to perform search, rescue, and other operations.
Determine proper placement of manual ladder at scene.

Determine manual ladder type and size needed at incident scene.
Anchor and secure manual ladder (i.e., tying off) at scene.
Raise and position manual ladder at incident scene.
Carry manual ladder from apparatus to incident scene.
Return manual ladder to apparatus.
H. FORCIBLE ENTRY
Pry open, cut, or break down doors, or otherwise enters structures, vehicles, aircraft and other entrapments in order to search for and rescue victims and provide access to the emergency scene – using axes, halligan tools, etc.
Gain entry into structures using axes, sledge hammers, battering rams, halligan tool and other forcible entry tools.
Cut through surfaces using power saws and other power tools.
Determine best location for forcible entry.
Pry open doors in structures using pry bars, halligan tools, bolt cutters and other tools.
Remove locks or hinges from doors using sledgehammers, battering rams, axes or other forcible entry tools.
Break holes in wooden, brick and masonry walls using sledge hammers, battering rams, axes and other tools.
I. VENTILATION
Open or break windows, chop or cut holes in roofs, breaches walls or doors, and hangs fans in windows or doors to remove heat, smoke and/or gas from structures or entrapments.
Determine best location for venting structure based on location of hazard and fire personnel, roof type, and building construction.
Break windows and other points of entry using axes, ladders and other tools, to ventilate structure.
Cut open walls, roof and other structures to ventilate structure.
Open windows and other points of entry manually or by using pry bars, halligan tools, and other tools, to ventilate structure.
Hang fans from ladders and in doors, windows, and holes in roofs or walls.
Use fans for positive pressure.
J. SEARCH
Search assigned area in order to locate victims and to obtain further information about incident, following standard search procedures.
Search floor or area of fire, or other hazard, for conscious and unconscious victims, sweeping assigned search area with arms, legs or tools.
Search floors above and below fire, or other hazard, including stairwells and bulkheads, for inhabitants who need to be moved or rescued.
View perimeter of the building to determine if there are victims needing assistance at windows, on ledges, or who have jumped.
Identify hazardous conditions in course of search and informs others of the problem.
Determine search procedure or strategy needed to accomplish objectives.
Search structures for seat of fire, or other hazard, and extensions.
K. RESCUE
Assist, hoist, carry or drag victims from emergency area by means of interior access (stairs, hallways, etc.) or, if necessary, by ladders, fire escapes, platforms, or other means of escape – using rescue harnesses, ropes, etc.
Rescue drowning victims using life-saving techniques.
Conduct water rescues (i.e., river rescue, using boats) in accordance with established

guidelines.
Evacuate persons from incident scene due to risk of fire, explosion, exposure to hazardous chemicals, etc.
Move heavy objects and obstructions in order to free or gain access to trapped victims or bodies, using air bags, chains and hoists, jacks, shoring materials, hurst tools and other hydraulic tools.
Drag or carries victims from emergency scenes.
Hoist or lowers victims or fire personnel using ropes, knots and rescue harnesses.
Pry, break or cut structures, vehicles, and/or aircraft to free victims involved in accidents, cave-ins, collapsed buildings or other entrapments -- using door openers, jaws, axes and other manual and mechanical equipment.
Instruct persons on upper floors as to appropriate actions (e.g., staying put, ascending to upper floors, descending to lower floors via fire escapes, etc.).
Dig to free victims trapped in tunnels, pipes, excavations, cave-ins or other entrapments using shovels, picks, spades and other equipment.
Place victims onto stretchers, backboards, stokes, etc.
L. SALVAGE
Move and cover furniture, appliances, merchandise and other property; covers holes in structures; stabilizes damaged structural components; and redirects or cleans up water in order to minimize damage -- using plastic and canvas covers, etc.
Tear down or shore up weak and dangerous structural components (e.g, floors, walls, roofs, overhangs and stairs) using hooks, axes, saws and other tools.
Spread salvage covers over property.
Protect the integrity of the incident scene, while performing salvage operations, in case of suspected arson.
Move furniture and other objects to protect from water or other damage.
Remove water from floors using brooms, squeegees, mops, water chutes, catchalls and pumps.
M. OVERHAUL
Open up walls and ceilings, cuts or pulls up floors and moves or turns over debris, in order to check for hidden fires which could rekindle or spread using hooks, axes, saws and pitchforks.
Open ceilings, walls, etc., to expose hot spots and other hazardous conditions with axes, pike poles, etc.
Search for and extinguish any hidden fires by looking, feeling or smelling for fire and smoke.
Check and search open areas, walls, open structures for fire extension.
Remove and neutralize or dispose of flammable or hazardous materials from buildings.
Remove and extinguish burned or smoldering debris from buildings.
Determine whether a smoke detector was present and functional.
N. CLEAN-UP/PICK UP
Pick up, clean and return equipment to vehicle and rolls or folds hose, so that the company can go back in service.
Control and clean up the Fire Department's medical waste products.
Clean and return all tools, equipment, supplies and property in usable condition to appropriate vehicles.
Shut down and drain lines at pumps.
Determine that all hoses used during response to incident are present and accounted for.
Clean hoses using hose washers or brooms and brushes.

Back lines out of structures.
Roll and fold hoses after use and returns them to appropriate vehicle.
Clean the apparatus.
O. FIRST AID
Provide direct medical assistance to persons requiring emergency attention or assists others in providing medical assistance.
Administer CPR if necessary.
Determine priority of emergency medical treatment for victims.
Administer first aid other than CPR.
Operate oxygen and other medical equipment.
Assist EMS personnel in administering medical treatment.
II. STATION DUTIES AND MAINTENANCE
P. EQUIPMENT MAINTENANCE
Check, clean, and maintain personal gear and equipment to ensure proper and safe operation.
Check Self Contained Breathing Apparatus for proper operation and adequate air pressure.
Check medical equipment.
Check turnout gear for safety and structural integrity.
Check the condition of generators, blowers, lights, cords and fans.
Check and maintains power equipment.
Place turnout gear on or near apparatus.
Check extension ladders.
Check hose on apparatus (proper bedding and amount).
Check and perform ordinary maintenance on other portable equipment (e.g., checks oil levels, greases, etc.).
Clean, reload, and test hoses.
Recommend that officer call for repairs on equipment.
Perform annual hose tests.
Inventory and perform regular maintenance on hand tools (e.g., paints, oils or stencils hand tools).
Change over equipment and supplies from one apparatus to another.
Paint other equipment as needed.
Q. APPARATUS MAINTENANCE
Check, clean, and maintain apparatus to ensure proper and safe operation.
Check ability of engine to pump water.
Check engine pumper pressure.
Check the aerial ladder sections, outriggers.
Recommend to officer that apparatus be kept out of service due to mechanical problems.
Perform normal daily apparatus check (e.g., oil, fuel & water levels; proper pressures and lubrications; batteries; lights; sirens; brakes; tires; etc.).
Recommend that officer call for repairs on apparatus.
Perform normal weekly apparatus check (e.g., hydraulic fluid levels).
Equip apparatus with traction devices (e.g., chains) as necessary.
Notify officer of electrical or mechanical problems on apparatus.
Check with Equipment Operator coming off duty regarding condition of apparatus.
Perform annual pump test.
Clean motor and pump on apparatus.

R. FACILITY MAINTENANCE
Check, clean, and maintain house facilities. This includes the performance, or assignment, of routine housekeeping chores.
III. FIRE PREVENTION AND INVESTIGATION
S. INSPECTION OF BUILDINGS & FIRE PROTECTION DEVICES
Inspect buildings for fire prevention/hazardous materials code violations or hazards on a periodic basis or during the course of their activities. Inspects alarms, hydrants, sprinkler systems, etc.
Recognize code violations (e.g., blocked exits, improper storage of chemicals, etc.).
Inspect buildings for code compliance.
Conduct inspections of schools.
Inspect buildings upon request of occupants/owners.
Conduct on-site inspections of fire protection devices (e.g., hydrants, alarms, sprinkler systems, etc.).
T. PRE-FIRE PLANNING
Review or prepare plans in order to provide information regarding hydrant locations, exposures, hazardous materials and other areas or situations of high risk.
Conduct site surveys in district.
Tour buildings in order to identify or verify the presence of an unusual fire hazard or situation.
Recognize a target hazard (e.g., a new high-rise or a building with hazardous materials) that may warrant the development of a pre-fire plan.
Conduct familiarity inspections in district.
Familiarize self with layout of first and second alarm districts.
U. INVESTIGATIONS
Examine incident scene, conducts interviews, collects and preserves evidence, and reviews forms and reports to help determine the cause of a fire or other emergency.
Respond to incidents of suspicious or undetermined origin.
Observe fireground conditions to detect possible arson.
IV. PUBLIC AND COMMUNITY RELATIONS
V. PUBLIC RELATIONS
Engage in activities which have an impact on the department's image in the community. Such activities include providing information to the media, providing assistance and support to civilians seeking help or information, etc.
Deal with distressed individuals at emergency scene.
Meet civilians in the fire station, conducts tours and provides information.
Make public presentations and conducts demonstrations of apparatus and equipment on behalf of the Fire Department.
W. PUBLIC TRAINING & EDUCATION
Oversee, develop, conduct and/or evaluate fire prevention and other educational programs for members of the public.
X. AUDIO-VISUAL PRODUCTION
Operate audio-visual equipment and develop and produce audio-visual materials for internal use or for public broadcasting.
V. PROFESSIONAL DEVELOPMENT
Participate in training drills and classes to enhance job-related skills and abilities. Reads internal memos and bulletins to keep apprised of new developments in departmental operations and procedures.
Maintain knowledge of chemicals and other hazardous materials.

Maintain knowledge of building structures related to fire control.
Attend specialized training sessions (e.g., CPR certification, special schools (e.g., Foam, ICS), etc.).
Attend routine training drills and sessions.
Maintain knowledge of latest firefighting equipment and techniques.
Attend "live-incident" training drills.
Attend external seminars/workshops and college courses to be aware of current developments in the fire service.
Observe training videotapes.
Participate in external agencies and societies (e.g., NFPA).
Act as a superior officer.
Receive training in superior's work activities.
Review internal Massachusetts Fire Department bulletins, memos, etc., to remain aware of departmental updates.
Read professional journals and publications (e.g., Fire Command) to be aware of current developments in the fire service.
Z. OTHER DUTIES
Carry hose, tools and other equipment to and from emergency scenes.
Operate generator to supply electricity to the emergency scene.
Set up electrical cords and lights.
Serve on special project committees to which he/she is assigned (e.g., Awards Committee, Hydrant Inspection, etc.).

**VIII. Linkage of PAT Events with Essential Tasks from the Job Task Analysis
Development & Administration of the Police & Physical Ability Tests for
the Commonwealth of Massachusetts**

Police Events

Physical Abilities Test

Event 1: Getting to the Problem

A. Obstacle Run

Essential Job Functions (from surveys):

Pursue a suspect or violator on foot

B. Take-down

Essential Job Functions (from surveys):

Physically restrain or control a non-violent individual

Physically restrain or subdue a violent or resisting individual

C. Handcuffing

Essential Job Functions (from surveys):

Effect an arrest, protect oneself and the public

Participate in in-service training including tactical exercises

Event 2. Resolving the Problem (Trigger Pull)

Essential Job Functions (from surveys):

Display and discharge a departmentally approved firearm

Participate in in-service training including firearms

Event 3. Resolving the Problem (Separation Event)

Essential Job Functions (from surveys):

Appraise the situation, separate individuals

Separate individuals in a fight or disturbance

Event 4: Removing the Problem (Dummy Drag)

Essential Job Functions (from surveys):

Administer immediate care to victim to prevent further injury, trauma, or death

Linkage of PAT Events with Underlying Physiological Requirements

Fire Fighter Events

Physical Abilities Test

Event 1: Stair Climb

Physiological demands are placed on the cardiovascular and respiratory systems. These demands include:

- increased demand on the lungs to facilitate a greater respiratory rate
- increased exchange of oxygen and carbon dioxide between the blood and alveoli in the lung
- increased transport of oxygen and carbon dioxide in the blood
- more blood pumped through the body from the heart to the lungs and skeletal muscles
- increased exchange of oxygen and carbon dioxide from the blood to the active skeletal musculature
- increased generation of energy in the form of adenosine triphosphate (ATP) in the muscle cells
- greater demand for removal and buffering of hydrogen ions generated during the production and utilization of energy in the muscle
- greater need to maintain thermal balance through decreased vasoconstriction and increased vasodilation of sweat glands in the skin resulting in an increased sweating rate

Activation of the skeletal system to generate muscular strength and endurance, which requires:

- contraction of the abdominal muscles (rectus abdominous, external obliques, internal obliques, serratus and erector spinae)
- contraction of the lower body and leg muscles (adductor longus, rectus femoris, vastus lateralis, vastus medialis, soleus, gastrocnemius, semitendinosus, semimembranosus, biceps femoris, gluteus maximus, gluteus medius)
- generation of ATP to facilitate muscle contraction and force generation
- removal and buffering of hydrogen ions generated during the production and utilization of energy in the contracting muscle

Event 2: Ladder Event

Physiological demands are placed on the cardiovascular and respiratory systems, which include:

- increased demand on the lungs to facilitate a greater respiratory rate
- increased exchange of oxygen and carbon dioxide between the blood and alveoli in the lung
- increased transport of oxygen and carbon dioxide in the blood
- more blood pumped through the body from the heart to the lungs and skeletal muscles
- increased exchange of oxygen and carbon dioxide from the blood to the active skeletal musculature
- increased generation of energy in the form of ATP in the muscle cells

- greater demand for removal and buffering of hydrogen ions generated during the production and utilization of energy in the muscle
- greater need to maintain thermal balance through decreased vasoconstriction and increased vasodilation of sweat glands in the skin resulting in an increased sweating rate

Physiological requirements also include muscular strength, anaerobic power and flexibility, which require:

- primarily contraction of the lower body and leg muscles (adductor longus, rectus femoris, vastus lateralis, vastus medialis, soleus, gastrocnemius, semitendinosus, semimembranosus, biceps femoris, gluteus maximus, gluteus medius)
- generation of ATP to facilitate muscle contraction and force generation
- buffering and removal of hydrogen ions generated during the production and utilization of energy in the contracting muscle
- ability of joints and muscles of the legs, back, and trunk to complete the required range of motion

Event 3: Hose Advance

Physiological requirements include muscular strength, anaerobic power, muscular endurance and flexibility, which require:

- the muscle cells to respond to neural impulses in the form of action potentials that signal the proteins in the muscle cell to interact and generate force
- requires the muscle cells to generate energy for contraction from stored ATP and phosphocreatine and through conversion of glycogen to lactate in the muscle cell
- requires the muscles and blood to buffer the increased acidity (lactic acid and hydrogen ions) resulting from muscle work
- requires the joints and muscles of the legs, back, and trunk to complete the required range of motion

Event 4. Forcible Entry

Physiological requirements primarily include muscular strength and coordination and require:

- the muscle cells to respond to neural impulses in the form of action potentials that signal the proteins in the muscle cell to interact and generate force
- the muscle cells to generate energy for contraction from stored ATP and phosphocreatine and through conversion of glycogen to lactate in the muscle cell
- the muscles and blood to buffer the increased acidity (lactic acid and hydrogen ions) resulting from muscle work
- the muscles of the chest, back, and arms (deltoid, pectoralis major, supraspinatus, latissimus dorsi, teres major, biceps brachii, brachialis, triceps brachii and brachioradialis) to generate force
- sensory input from the cerebellum and upper brain to coordinate the physical action and neural generation of a signal for muscle contraction.

Event 5: Search

Physiological requirements include muscle flexibility, proprioception and kinesthetic sense, which require:

- the joints and muscles of the legs, back, and trunk to complete the required range of motion
- requires input from the motor cortex, corticospinal tract and brain stem to control reticular and vestibular movement

Event 6: Rescue

Physiological requirements include muscular strength, anaerobic power, muscular endurance and flexibility, which require:

- the muscle cells to respond to neural impulses in the form of action potentials that signal the proteins in the muscle cell to interact and generate force
- the muscle cells to generate energy for contraction from stored ATP and phosphocreatine and through conversion of glycogen to lactate in the muscle cell
- the muscles and blood to buffer the increased acidity (lactic acid and hydrogen ions) resulting from muscle work
- the joints and muscles of the legs, back, and trunk to complete the required range of motion

Event 7: Ceiling Hook (Pike Pole)

Physiological requirements include muscular strength, anaerobic power, muscular endurance and flexibility, which require:

- the muscle cells to generate energy for contraction through stored ATP and phosphocreatine and through conversion of glycogen to lactate in the muscle cell
- the muscles and blood to buffer the increased acidity (lactic acid and hydrogen ions) resulting from muscle work
- the joints and muscles of the legs, back, arms, hands and trunk to complete the required range of motion

Linkage of PAT Events with Essential Tasks from the Job Task Analysis

Fire Fighter Events

Physical Abilities Test

Event 1: Stair Climb

Essential Job Functions (from surveys):

Lays feeder line

Advances or assists in advancing hose to seat of fire or other hazard

Carries hose to and from emergency scenes

Searches (multi-floor) structure for seat of fire, or other hazards

Searches floors above and below fire, or other hazard, including stairwells and bulkheads, for inhabitants who need to be moved or rescued

Event 2: Ladder Event

Essential Job Functions (from surveys):

Extends manual extension ladders to reach victims

Places ladder at scene

Raises and positions manual ladder at scene

Carries manual ladder from apparatus to incident scene

Returns manual ladder to apparatus

Event 3: Hose Advance

Essential Job Functions (from surveys):

Lays feeder line from supply water to fire

Advances or assists in advancing hose to seat of fire or other hazard

Pulls hose off hose bed

Carries hose to and from emergency scenes

Event 4. Forcible Entry

Essential Job Functions (from surveys):

Gains entry into structures using axes, sledge hammers, etc.

Breaks holes in wooden, brick, and masonry walls using sledge hammers

Event 5: Search

Essential Job Functions (from surveys):

Searches floor or area of fire for victims

Searches floors above and below fire for inhabitants who need to be moved

Event 6: Rescue

Essential Job Functions (from surveys):

Evacuates persons from incident scene due to risk
Drags or carries victims from emergency scenes

Event 7: Ceiling Hook (Pike Pole)

Essential Job Functions (from surveys):

Tears down weak and dangerous structural components
Opens ceilings, walls, etc. to expose hot spots and other hazardous conditions

IX. Physical Fitness Standards Test Course for Police Officers/Physical Ability Test (PAT) Events

(1) The Physical Fitness Standards Test for Police Officer consists of four (4) events that require candidates to perform simulations of activities that are a part of the police officer's job. These events require cardiovascular fitness, muscle strength, muscular endurance and flexibility. Each event will be timed. During all events, the candidate will wear a duty belt equipped with a holster, plastic gun and night stick to simulate the equipment a police officer normally wears during these types of activities. The events are described below. They will be performed in the order listed. There will be a twenty second rest period between events.

(a) Event #1: "Getting to a Problem" - The Obstacle Course.

This event simulates the actions necessary to pursue and "takedown" a suspect. The event begins with a 340-yard obstacle course where the candidate will be faced with climbing under an obstacle, climbing up and down steps, going through an open window, climbing over a wall and negotiating a series of cones arranged in a zigzag pattern. At the end of the course, the candidate will be required to grab hold of a weighted bag attached to a pulley and touch it to the ground beyond a three (3) foot line. The candidate will then immediately move around the Power Station to the handcuffing simulation where he/she will be required to pull on two hand levers until the cable hits the stop. This completes the event.

(b) Event #2 "Resolving the Problem" - The Trigger Pull Event. The event consists of raising a handgun and squeezing the trigger six (6) times with each hand.

(c) Event #3: "Resolving the Problem" - The Separation Event. This event simulates tasks that require separating one party from another and controlling individuals, such as in crowd control situations. The candidate will be required to pull a hanging bag, weighted against 75 lbs., backwards touching it to the ground across a marked line. Each candidate will have to perform two "pulls".

(d) Event #4: "Removing the Problem" - The Dummy Drag. This event simulates dragging a victim or suspect. The candidate will be required to drag a 6', 145 pound dummy over a straight 25 foot course.

Specifications for these test events are on file at HRD.

Scoring of the Physical Fitness Standards Test Course for Police Officers

- (1) The scoring will be as follows:

TABLE OF CUT SCORES	
Obstacle Course	130.4 seconds
Trigger Pull	7.1 seconds
Bag Pull	14.2 seconds
Dummy Drag	11 seconds

- (2) In order to pass the Physical Fitness Standards Test successfully, a candidate must pass every sub-test by achieving at least the passing score indicated on the preceding chart. If upon examination, a candidate does not pass the test, then that candidate will be required to retake the entire test (all the sub-tests) during the re-examination.

X. Physical Fitness Standards Test Course for Fire Fighters/ Physical Ability Test (PAT) Events

(1) General Description The Physical Fitness Standards Test for Fire Fighter consists of 7 events that require each candidate to perform simulations of activities that are part of the fire fighter's job. These events require cardiovascular fitness, muscle strength, muscular endurance and flexibility. Each event will be timed. During all events, the candidate will wear a weighted vest which approximates the weight of the clothing, equipment and breathing apparatus that a fire fighter normally wears during these types of activities. The events are described below. They will be performed in the order listed.

(a) Stair Climb This event simulates continuous stair climbing, an activity that fire fighters may perform when getting to a fire at an incident scene. For this event, the candidate will be required to step on a rotating stair case (also known as a stepmill) at a pre-determined stepping pace for a specific period of time. There is a five minute rest period after the stair climb event.

(b) Ladder Event This event simulates various activities related to using extension ladders. The candidate will be required to remove a ladder from a rack, carry it some distance, raise a weight of approximately 45 lbs. attached to a rope that simulates the raising of an extension ladder, lower that weight and return the ladder to the rack from which it was taken. The event ends when the ladder is back in the rack. This event will be timed.

(c) Hose Advance This event simulates the actions necessary to manipulate a fully charged fire hose. The candidate will be required to pull 50 feet of hose through a U-shaped course with several turns. There will be a ceiling on the U-shaped course to prevent the candidate from standing upright. This event will be timed.

(d) Forcible Entry This event simulates breaking down a door to gain entry to a burning structure or an incident scene. For this event the candidate will be required to strike a rubber pad mounted on a moveable post. The candidate will use a 12 lb. sledge hammer to move the post a set distance. The post and structure are weighted to simulate the force one would need to exert on a door in order to gain entrance. The candidate's score will be based on the time it takes to move the post the required distance.

(e) Search This event simulates the actions necessary to enter and search a smoke-filled structure. Candidates crawl through a dark wooden tunnel with obstructions and turns. The tunnel is approximately 65 feet long. The tunnel is 4 feet high and 4 feet wide. At one location in the tunnel there is an obstacle on the floor and at one location there is an obstacle from the ceiling. In addition, at two locations, the tunnel is reduced from 4 feet to 3 feet in width. This event will be timed.

(f) Rescue Through a Doorway This event simulates the actions necessary to drag an unconscious victim through a doorway to get the

victim to safety. Individuals drag a 125 pound dummy approximately 60 feet along a zigzag course to a designated area at the end of the course. In this event, there is a low ceiling over the course to prevent candidates from standing upright. This event will be timed.

(g) Ceiling Hook (Pike Pole) This event simulates the use of a pike pole or ceiling hook. A pike pole or ceiling hook is a fire fighting tool used to tear down ceilings or open walls while looking for hidden fires. This event requires the candidate to take a pike pole, tipped with an industrial hammer head, and thrust it upward at a metal plate in an 8 foot ceiling. The metal plate weighs approximately 60 lbs. and must be lifted six inches in order for the strike to count. The candidate then steps over to the next part of the event, where a pike pole handle is suspended from a ceiling height. The pole is attached to a counter balance that weighs approximately 80 lbs. The candidate must pull the pole down six inches in order for the pull to count. The candidate must perform one push and five pulls in a sequence. The event will require the candidate to perform four one-minute periods of work, in which he/she will try to do as many push-pull sequences as possible. Only completed sequences will count in the scoring of this event. Each work period will be followed by a 30 second rest period.

(2) Specifications for these test events are on file at HRD.

Scoring of the Physical Fitness Standards Test Course for Fire Fighters

(1) The scoring will be as follows:

TABLE OF CUT SCORES	
Stepmill	200 seconds
Ladder	35.56 seconds
Hose Advance	20 seconds
Forcible Entry	13.91 seconds
Search	39 seconds
Rescue	36 seconds
Ceiling Hook	25 repetitions

(2) In order to pass the Physical Fitness Standards Test successfully, a candidate must pass every sub-test by achieving at least the passing score

indicated on the above chart. If upon examination, a candidate does not pass the test, then that candidate will be required to retake the entire test (all the sub-tests) during the re-examination.